



CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

Revised May 17, 1999

H.R. 45 **Nuclear Waste Policy Act of 1999**

As ordered reported by the House Committee on Commerce on April 21, 1999

SUMMARY

H.R. 45 would amend the Nuclear Waste Policy Act by directing the Department of Energy (DOE) to begin storing spent nuclear fuel and high-level nuclear waste at an interim facility in Nevada no later than June 30, 2003. The bill would direct DOE to continue site characterization activities at the proposed permanent repository site at Yucca Mountain, also in Nevada. Title III would direct that receipts and outlays of the Nuclear Waste Fund not be counted for purposes of the President's budget, the Congressional budget, or the Balanced Budget and Emergency Deficit Control Act.

Assuming appropriation of the necessary amounts, CBO estimates that implementing H.R. 45 would cost about \$4 billion over the 2000-2004 period. The bill would not change the current requirement that nuclear utilities pay a fee of one-tenth of a cent per kilowatt-hour of electricity sold. Such fees are deposited in the Nuclear Waste Fund. By moving the receipts and expenditures of the Nuclear Waste Fund off-budget, H.R. 45 would not directly change the federal budgetary impact of the program, but that treatment could ease the way for increased federal spending by exempting such spending from budgetary controls. Enacting H.R. 45 would not affect direct spending or receipts; therefore, pay-as-you-go procedures would not apply.

H.R. 45 contains intergovernmental mandates as defined in the Unfunded Mandates Reform Act (UMRA), but CBO estimates that the costs imposed by these mandates would not exceed the threshold established by that act (\$50 million in 1996, adjusted annually for inflation).

H.R. 45 would impose a private-sector mandate, as defined by UMRA, by requiring new training standards for workers involved in the removal and transportation of spent nuclear fuel and nuclear waste. Information provided by government and industry sources indicate that any added costs of this mandate beyond current training requirements would be minimal and thus would not exceed the threshold for private-sector mandates (\$100 million in 1996, adjusted annually for inflation) established in UMRA.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

CBO estimates that enactment of H.R. 45 would not affect direct spending. We estimate that building and operating an interim storage facility and continuing the study of the Yucca Mountain site for a permanent waste repository as authorized by the bill would require appropriations of nearly \$4.3 billion over the 2000-2004 period. (This estimate is about \$1 billion higher than estimates for similar legislation considered in the 105th Congress. The increase is attributable to changes in DOE's program plan for the nuclear waste program, and the more compressed schedule for preparing to receive waste at an interim repository.)

The estimated budgetary impact of H.R. 45 is shown in the following table. The costs of this legislation fall within budget functions 050 and 270 (defense and energy).

	By Fiscal Year, in Millions of Dollars					
	1999	2000	2001	2002	2003	2004
SPENDING SUBJECT TO APPROPRIATION						
Spending on the Nuclear Waste Program						
Under Current Law						
Budget Authority ^a	358	0	0	0	0	0
Estimated Outlays	324	55	0	0	0	0
Proposed Changes						
Estimated Authorization Level	0	740	830	900	900	900
Estimated Outlays	0	578	746	879	893	900
Spending on the Nuclear Waste Program						
Under H.R. 45						
Estimated Authorization Level ^a	358	740	830	900	900	900
Estimated Outlays	324	633	746	879	893	900

a. The 1999 level is the amount appropriated for that year.

BASIS OF ESTIMATE

This estimate is based on DOE's current plan for the nuclear waste program, issued in July 1998, and on information from the department concerning the costs of an interim storage facility. For purposes of this estimate, CBO assumes H.R. 45 will be enacted before the end of fiscal year 1999, and that the department will proceed to develop an interim storage facility in Nevada to accept waste beginning on June 30, 2003, as authorized by the bill. We assume that DOE will apply to the Nuclear Regulatory Commission (NRC) by

December 31, 2002, for authorization to construct a permanent nuclear waste repository at the Yucca Mountain site, and that this facility will begin operations by January 17, 2010.

Spending Subject to Appropriation

Interim Storage Facility. The bill would require DOE to design and develop an interim nuclear waste storage facility at the Nevada test site. Based on information from DOE, we estimate the costs of building, operating, and transporting nuclear waste to the Nevada facility would be about \$2.4 billion over the 2000-2004 period, including \$85 million appropriated in 1996. (Spending from the existing \$85 million appropriation is contingent upon enactment of an authorization of an interim nuclear waste repository, such as H.R. 45.)

A large portion of the costs would be for shipping the nuclear waste to the interim facility because the federal government would be responsible for all costs of transporting the waste from nuclear reactors to the facility by dedicated trains and heavy-haul trucks—which would require road improvements. Procurement of special shipping casks and waste-storage canisters would account for most of the initial transportation costs. Based on information from DOE, CBO estimates that costs for waste transportation would total \$1.3 billion over the 2000-2004 period. This amount includes \$10 million annually over the 2000-2003 period for grants to state, local, and tribal governments for emergency transportation planning and training of public safety personnel along routes used to ship waste to the Nevada facility.

The interim storage facility would be built in two phases and designed to accept up to 40,000 metric tons of uranium. Estimated costs of operating the facility include annual payments to both Lincoln and Nye counties in Nevada, of \$2.5 million each before the first shipment of waste, and \$5 million each after waste shipments begin, as authorized by section 203.

As authorized by the bill, additional costs would be incurred after 2004 to complete construction of the interim facility and continue operations. These costs, including the cost of transporting the waste, would exceed \$2 billion over the 2005-2009 period.

Yucca Mountain. H.R. 45 would direct DOE to proceed with its Civilian Radioactive Waste Management Program Plan of July 1998. This plan calls for continuing to evaluate the Yucca Mountain site as a permanent repository for nuclear waste and applying for a license from the NRC to construct a repository in 2002, if the site appears to be viable for this use. Based on information from DOE, CBO estimates that this effort would require appropriations averaging about \$390 million annually and totaling \$1.95 billion over the 2000-2004 period.

Substantial additional costs would be incurred after 2004 to construct and operate a nuclear waste repository at Yucca Mountain if the NRC issues a license to the department. In its December 1998 report, *Analysis of the Total System Life Cycle Cost of the Civilian Radioactive Waste Management Program*, DOE estimates the future cost to complete the program is “approximately \$36.6 billion, in constant 1998 dollars from 1999 through closure and decommissioning, assumed to be in 2116.”

Nuclear Waste Technical Review Board. Title V would authorize continuation of the oversight activities of the Nuclear Waste Technical Review Board. Based on the board’s ongoing work, CBO estimates this agency would spend about \$3 million annually over the 2000-2004 period, assuming appropriation of the necessary amounts.

Direct Spending

CBO estimates that enacting H.R. 45 would not affect direct spending. H.R. 45 would authorize modifications of contracts between DOE and nuclear utilities that may result in reduced payments of annual nuclear waste fees; however, CBO already expects such lower payments under current law. Implementation of H.R. 45 by constructing an interim nuclear waste repository in 2003 could affect the timing of some one-time nuclear waste fees owed to the government by 13 nuclear electric utilities; however, any such change would require appropriations and would not be a result of enacting the bill.

All commercial nuclear power plant operators in the United States are parties to DOE’s Standard Contract for Disposal of Spent Nuclear Fuel. The Standard Contract provides for DOE to take title to and dispose of commercial nuclear waste in exchange for certain annual fees and one-time fees paid by nuclear utilities to DOE. It states that DOE was to begin disposing of nuclear waste on January 31, 1998. Because that date has passed and DOE has not begun to dispose of this waste, some nuclear utilities are seeking damages through the judicial system.

H.R. 45 would allow nuclear utilities or DOE to propose modifications to their individual Standard Contracts for Nuclear Waste Disposal to provide for storage of nuclear waste in the interim repository authorized by the bill, or to have DOE take title to the waste while stored at the utility’s site. In order to propose either of these contract amendments, the bill would require utilities to waive any authority they have to seek damages from DOE for its failure to begin accepting nuclear waste on January 31, 1998.

Annual Nuclear Waste Fees. Some utilities may be interested in seeking a Standard Contract modification that would require DOE to take title (and presumably financial

responsibility) for the utility's waste while it is being stored at the utility's site. This modification could be accomplished by reducing the annual fees that utilities would otherwise be required to pay to DOE. (Alternatively, appropriated funds could be used to pay utilities for the costs of on-site storage.) Under article IX of the Standard Contract, utilities may seek a change in the annual fees they owe to compensate them for any additional costs incurred because of an avoidable delay in the waste disposal schedule. CBO has assumed that DOE would reduce fees by about \$400 million for failing to dispose of 10,000 metric tons of waste over the 1998-2009 period. Because this is the same amount that we estimate utilities would seek after having DOE take title to the waste on their sites, CBO estimates that enactment of H.R. 45 would not further reduce annual nuclear waste receipts.

One-time Nuclear Waste Fees. As of January 1999, 13 nuclear utilities owed DOE about \$2.3 billion for one-time nuclear waste fees. The one-time fee is a payment for disposal of waste generated before enactment of the 1982 Nuclear Waste Policy Act, and it is due when waste is delivered to DOE. If DOE receives sufficient funding and is able to construct and open an interim repository by June 30, 2003, CBO expects utilities would begin to seek contract modifications and all of these one-time fees would be paid to the government within a few years. Because the opening of an interim nuclear waste repository would require appropriations, the subsequent receipt of one-time fees would not be a result of enacting H.R. 45.

Off-Budget Status

Section 301 would require that the receipts and disbursements of the Nuclear Waste Fund not be counted as new budget authority, outlays, or receipts in the President's budget request, the Congressional budget, or for purposes of estimates made under the Balanced Budget and Emergency Deficit Control Act. H.R. 45 also would authorize appropriations from the general fund to pay for the share of DOE's nuclear waste disposal program that is attributable to the federal government's atomic energy defense activities. The bill would not exclude spending from the general fund on this program from the federal budget.

By itself, moving the Nuclear Waste Fund off-budget would not change total spending of the federal government. Under scorekeeping rule 13 in the conference report on the Balanced Budget Act of 1997, H.R. 45 would not be scored as affecting spending or receipts for Congressional scorekeeping purposes. If the Office of Management and Budget reduced the statutory caps on discretionary spending to reflect this change in budgetary concepts, making the fund off-budget would not create any additional leeway for on-budget appropriations. By exempting Nuclear Waste Fund appropriations from the budgetary control and enforcement procedures that apply to most other programs, however, the bill could have the

effect of increasing spending on nuclear waste disposal. The amount of any increase would depend upon future appropriation actions.

PAY-AS-YOU-GO CONSIDERATIONS: None.

ESTIMATED IMPACT ON STATE, LOCAL, AND TRIBAL GOVERNMENTS

H.R. 45 contains intergovernmental mandates as defined in UMRA, but CBO estimates that the costs imposed by these mandates would not exceed the threshold established by that act (\$50 million in 1996, adjusted annually for inflation).

Mandates

H.R. 45 would preempt any conflicting requirement of state law. This preemption would be a mandate as defined by UMRA, but CBO estimates that it would impose costs on state and local governments that would be well below the threshold in UMRA.

By directing DOE to construct and operate an interim storage facility, H.R. 45 would probably increase the cost to the state of Nevada of complying with existing federal requirements. CBO cannot determine whether these costs would be considered the direct costs of a mandate as defined by UMRA.

Based on information provided by state officials, CBO estimates that recurring state spending could increase by as much as \$5 million per year after shipments to the interim storage facility begin. In order to prepare for such shipments, the state could also incur one-time costs of \$50 million to \$100 million, spread over several years. Spending by Nevada counties for similar activities would probably increase, but by much smaller amounts.

Not all of this spending would be for the purpose of complying with federal requirements, however. It would support a number of activities, including emergency communications, emergency response planning and training, inspections, and escort of waste shipments. Further, some of these expenditures probably would be reimbursed by the federal government, depending on the availability of appropriations. This estimate does not include costs of upgrading roadways for heavy-haul transportation of nuclear waste in Nevada, because H.R. 45 provides that DOE would be responsible for those costs.

These costs are similar to those that the state would eventually incur under current law as a result of the permanent repository planned for Yucca Mountain. DOE currently does not expect to begin receiving material at a permanent repository until at least 2010, while H.R. 45 would require that it begin to receive material at an interim facility in fiscal year 2003. As a result, the state would have to respond to the shipment and storage of waste at least seven years sooner than under current law. Further, the state's costs would increase because it would have to plan for two facilities.

Other Impacts

H.R. 45 would direct DOE to make cash payments and convey parcels of land to Nye County, Nevada, and Lincoln County, Nevada. Each would receive annual payments of \$2.5 million until the first waste is shipped to the interim facility and \$5 million after shipments begin plus a single \$5 million payment at the time shipments begin. The bill also identifies several parcels of land that DOE would convey to those counties and to the city of Caliente, Nevada.

The state of Nevada and local governments within the state might lose payments from the federal government if H.R. 45 is enacted. The bill would delete much of section 116 of the Nuclear Waste Policy Act, which authorizes payments to the state of Nevada and to local governments within the state. Section 116 currently authorizes DOE to make grants to these governments to enable them to participate in evaluating and developing a site for a permanent repository and to offset any negative impacts of such a site. Under H.R. 45, only Nye County would be eligible to receive reimbursement for the costs of an on-site representative.

Amounts appropriated by the Congress for payments authorized by section 116 have varied considerably over the past several years, ranging from zero to \$15 million. The Energy and Water Development Appropriations Act, 1999 (Public Law 105-245) provided \$250,000 for the state of Nevada and \$5.5 million for affected local governments.

ESTIMATED IMPACT ON THE PRIVATE SECTOR

H.R. 45 would impose a mandate on the private sector by requiring the Secretary of Transportation to establish training standards for workers involved in the removal and transportation of spent nuclear fuel and nuclear waste. The workers that would be affected by this provision already require extensive training under current law. Industry experts have

indicated that the additional costs imposed by this provision would be minimal and would not exceed the threshold for private-sector mandates (\$100 million in 1996, adjusted annually for inflation) established in UMRA. In addition, these costs could be offset by appropriations designated to cover the cost of training programs consistent with those requirements. The bill would direct the Secretary of Energy to provide funds and technical assistance to nonprofit employee organizations, voluntary emergency response organizations, and joint labor-management organizations that implement such training programs.

PREVIOUS CBO ESTIMATE

On May 4, 1999, CBO prepared a cost estimate for H.R. 45 as ordered reported by the House Committee on Commerce on April 21, 1999. This revised estimate corrects an error in the discussion of the basis for the estimate prepared on April 21, 1999, but does not change CBO's estimated cost of the bill.

The discussion of direct spending in our earlier estimate of the bill stated that "CBO has assumed that DOE would reduce fees by about \$400 million a year for failing to dispose of 10,000 metric tons of waste over the 1998-2009 period." Our assumption is that fees will be reduced by a total of about \$400 million over the 1998-2009 period. Thus, this revised estimate excludes the words "a year" in that discussion.

ESTIMATE PREPARED BY:

Federal Costs: Kim Cawley

Impact on State, Local, and Tribal Governments: Marjorie Miller

Impact on the Private Sector: Keith Matrick

ESTIMATE APPROVED BY:

Paul N. Van de Water

Assistant Director for Budget Analysis